

**U.S. FISH AND WILDLIFE SERVICE
SPECIES ASSESSMENT AND LISTING PRIORITY ASSIGNMENT FORM**

SCIENTIFIC NAME: *Cordia rupicola*

COMMON NAME: no common name

LEAD REGION: 4

INFORMATION CURRENT AS OF: September 27, 2005

STATUS/ACTION:

☐ Species assessment- determined species did not meet the definition of endangered or threatened under the Act and, therefore, was not elevated to Candidate status

☐ New candidate

☒ Continuing candidate

☐ Non-petitioned

☒ Petitioned - Date petition received: May 11, 2004

☐ 90-day positive - FR date: ☐

☐ 12-month warranted but precluded - FR date: ☐

☐ Did the petition request a reclassification of a listed species?

FOR PETITIONED CANDIDATE SPECIES:

a. Is listing warranted (if yes, see summary of threats below)? yes

b. To date, has publication of a proposal to list been precluded by other higher priority listing actions? yes

c. If the answer to a. and b. is "yes", provide an explanation of why the action is precluded. We find that the immediate issuance of a proposed rule and timely promulgation of a final rule for this species has been, for the preceding 12 months, and continues to be, precluded by higher priority listing actions (including candidate species with lower LPNs). During the past 12 months, almost our entire national listing budget has been consumed by work on various listing actions to comply with court orders and court-approved settlement agreements, meeting statutory deadlines for petition findings or listing determinations, emergency listing evaluations and determinations, and essential litigation-related, administrative, and program management tasks. We will continue to monitor the status of this species as new information becomes available. This review will determine if a change in status is warranted, including the need to make prompt use of emergency listing procedures. For information on listing actions taken over the past 12 months, see the discussion of "Progress on Revising the Lists," in the current CNOR which can be viewed on our Internet website (<http://endangered.fws.gov/>).

☐ Listing priority change

Former LP: ☐

New LP: ____

Date when the species first became a Candidate (as currently defined): October 25, 1999

____ Candidate removal: Former LP: ____

____ A - Taxon is more abundant or widespread than previously believed or not subject to the degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status.

____ U - Taxon not subject to the degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status due, in part or totally, to conservation efforts that remove or reduce the threats to the species.

____ F - Range is no longer a U.S. territory.

____ I - Insufficient information exists on biological vulnerability and threats to support listing.

____ M - Taxon mistakenly included in past notice of review.

____ N - Taxon may not meet the Act's definition of "species."

____ X - Taxon believed to be extinct.

ANIMAL/PLANT GROUP AND FAMILY: Flowering plant - Boraginaceae

HISTORICAL STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Puerto Rico, Anegada (British Virgin Islands)

CURRENT STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Puerto Rico, Anegada (British Virgin Islands)

LAND OWNERSHIP: The main population of *Cordia rupicola* in Puerto Rico is located on privately owned land. Three additional individuals have been found in the Guánica Commonwealth Forest (managed by the Puerto Rico Department of Natural and Environmental Resources).

LEAD REGION CONTACT: Richard Gooch, 404/679-7124

LEAD FIELD OFFICE CONTACT: Dr. Jorge E. Saliva, Caribbean Field Office, 787/851-7297

BIOLOGICAL INFORMATION:

Species Description

Cordia rupicola is a small shrub reaching about 1.5 to 5 meters (4.9 to 16.4 feet) in height. Leaves are ovate to elliptic, two to nine centimeters (0.8 to 3.5 inches) long, and chartaceous. The leaf upper surface is rigidly scabrous, puberulous underneath, and the strigose petioles are from two to ten millimeters (0.1 to 0.4 inches) long. Flowers are in solitary globular heads of 20, and about one centimeter (0.4 inches) in diameter. The corolla is white, seven millimeters (0.3 inches) long, and the fruit is a red one-seeded drupe about four to five millimeters (0.2 inches) long (Proctor 1991).

Taxonomy

Cordia is a genus of about 250 or more species of trees and shrubs of tropical and subtropical regions. Liogier and Martorell (1982) recognize 17 species of *Cordia* for Puerto Rico. Fifteen species are considered to be native to Puerto Rico, and the remaining two are introduced.

Habitat/Life History

The Peñuelas site is located within the subtropical dry forest life zone overlying a limestone substrate. The hills are wooded with a low dense brush, two to three meters (6.5 to 9.8 feet) high, with only a few scattered trees that reach four to five meters (13.1 to 16.4 feet) tall. The area appears to have been cut over recently at the time of the surveys. These scattered trees include *Bourreria succulenta* var. *succulenta*, *Bucida buceras*, and *Bursera simaruba*. The shrub layer is dominated by *Croton humilis*, *Eupatorium sinuatum*, *Lantana reticulata*, and *Turnera diffusa*. Average rainfall received in this dry life zone is less than 66 centimeters (25.7 inches) a year. The site is privately owned, and the area is part of a residential development (Breckon and Kolterman 1996).

Historical Range/Distribution

Cordia rupicola was previously thought to be endemic to Puerto Rico, but it was reported in 1987 from the island of Anegada in the British Virgin Islands. The German botanical collector Paul Sintenis first discovered this species in 1886 at Los Indios, located between Barinas and Guayanilla, Puerto Rico. It was later found in Guánica, Puerto Rico, in 1887, and again in 1943 and 1959 (Proctor 1991). Proctor (1994) reported a specimen from Punta Jalova, Vieques Island observed by Woodbury, possibly around 1978. Surveys conducted in 1991 did not find the species at the historical locations in Guánica and Guayanilla (Proctor 1991). At that time, the only known location was that of Anegada.

Current Range/Distribution

Surveys conducted in 1995 located the species in the area of Peñuelas, an area to the east of Guayanilla, at a site called El Peñón. Approximately 15 plants of *Cordia rupicola* have been located at this site. Some plants were observed with fruit in the month of January. Other rare and endangered plants, *Eugenia woodburyana* (listed as endangered), *Myrtus bellonis*, *Passiflora bilobata*, and *Nashia inaguensis*, are also known from that site (Breckon and Kolterman 1996). In 2003, three individuals of *Cordia rupicola* were found adjacent to a trail within the Guánica Commonwealth Forest (Canals, personal communication 2004). Although no specimens of *Cordia rupicola* were found during a survey on Vieques Island in 1995-1996, a specimen was found in 2005 on Lighthouse Peninsula in Vieques Island (Kolterman, personal communication).

Population Estimates/Status

Not more than 25 individuals of *Cordia rupicola* are known from the Puerto Rico locality. On Anegada, it was known from a few dozen individuals at each of two localities, but the current status of that population is not known.

THREATS:

- A. The present or threatened destruction, modification, or curtailment of its habitat or range. *Cordia rupicola* is currently known from only three areas in Puerto Rico: Guánica, Peñuelas, and Vieques Island. While it has been reported from Anegada, little is known about the species on that island except that it has been reported as not uncommon (Breckon, personal communication 2004). The principal known population site in Puerto Rico is located on privately owned land that forms part of a residential development. Although residential lots are large in size, ongoing homebuilding in many of the surrounding lots (some of which have been completely cleared for house construction), threaten to affect individuals of *Cordia rupicola*. While high voltage power lines that pass over the property may somewhat protect the area from construction, concern has been expressed over the Puerto Rico Energy Authority's clearing of vegetation under such lines by cutting, burning, or the use of herbicides.
- B. Overutilization for commercial, recreational, scientific, or educational purposes. *Cordia rupicola* is not known to be utilized for commercial, recreational, scientific or educational purposes.
- C. Disease or predation. Neither disease nor predation has been documented as threats to this species.
- D. The inadequacy of existing regulatory mechanisms. The Commonwealth of Puerto Rico has adopted Regulation #6766 (Reglamento para Regir las Especies Vulnerables y en Peligro de Extinción en el Estado Libre Asociado de Puerto Rico) that recognizes and provides protection for certain Commonwealth listed species. However, *Cordia rupicola* is not on this list. Federal listing would provide protection under the Endangered Species Act, and, by virtue of the existing cooperative agreement under section 6, it would ensure the species' addition to the Commonwealth list of vulnerable, threatened, and endangered species.
- E. Other natural or manmade factors affecting its continued existence. One of the most important factors affecting the continued survival of *Cordia rupicola* is its limited distribution. The currently known largest concentration of *Cordia rupicola* in Puerto Rico is found on privately owned land. The site is located within the driest life zone on the island, and fires, both spontaneous and caused by man, although not regular are a frequent occurrence during dry years. The possibility of development of private lands where *Cordia rupicola* is found threatens the species. Damage from catastrophic events, such as hurricanes, could result in the loss of a significant number of individuals.

CONSERVATION MEASURES PLANNED OR IMPLEMENTED:

Studies of the distribution, abundance, and reproductive biology of *Cordia rupicola* have been conducted by scientists at the University of Puerto Rico, Mayagüez Campus.

SUMMARY OF THREATS:

Threats to the known population of *Cordia rupicola* are imminent, because only a small fraction of the known population is found within the Guánica Commonwealth Forest that afford some level of protection, the current status of the Anegada population is not known, population number appears to be low, and the majority of the known population is located in privately-owned currently under development pressure. These threats provide sufficient information on biological vulnerability to maintain *Cordia rupicola* as a candidate species, albeit issuance of a proposed rule on this species is precluded by higher-priority listing actions.

LISTING PRIORITY:

THREAT			
Magnitude	Immediacy	Taxonomy	Priority
High	Imminent	Monotypic genus	1
		Species	2*
	Non-imminent	Subspecies/population	3
		Monotypic genus	4
		Species	5
Moderate to Low	Imminent	Subspecies/population	6
		Monotypic genus	7
		Species	8
	Non-imminent	Subspecies/population	9
		Monotypic genus	10
		Species	11
		Subspecies/population	12

Rationale for listing priority number:

Magnitude:

Cordia rupicola has a restricted distribution in the subtropical dry forest of southwestern Puerto Rico, Vieques Island, and Anegada Island that renders this species vulnerable to natural (e.g., fires, hurricanes, landslides) or manmade (e.g., construction projects, urban expansion) threats to its habitat and populations. Only three individuals have been found within protected land outside its main population site.

Imminence:

The threat to *Cordia rupicola* is imminent, since the species main population is currently known from privately owned lands that continue to be subjected to residential development.

Rationale for Change in Listing Priority Number (insert if appropriate):

Yes Have you promptly reviewed all of the information received regarding the species for the purpose of determining whether emergency listing is needed?

Is Emergency Listing warranted? No. Although only three individuals of *Cordia rupicola* have been found within the Guánica Commonwealth Forest, other suitable areas within this protected forest have not been surveyed extensively and may contain individuals of this species (Canals and Breckon, personal communication 2004). Additional private lands adjacent to the currently known population site that have not been surveyed and contain suitable habitat may also harbor *Cordia rupicola*. The presence of power lines throughout some of these private lands affords certain protection to nearby species, due to restrictions in urban development in the vicinity of power lines.

DESCRIPTION OF MONITORING:

The main population of *Cordia rupicola* has not been monitored since 1996. In 2003, three individuals of this species were found in the Guánica Commonwealth Forest. Habitat for *Cordia rupicola* is found in areas adjacent to known sites, however, both private lands contiguous to the main population site, and other suitable areas within the Guánica Commonwealth Forest, have not been surveyed to determine the presence of additional individuals of *Cordia rupicola*. The Boquerón Field Office allocated funding in FY 2005 (report due in September 2006) to the Center for Development and Research of the University of Puerto Rico, Mayagüez, to conduct extensive literature review and population surveys of *Cordia rupicola* at historical and potential sites.

COORDINATION WITH STATES:

The Department of Natural and Environmental Resources, Guánica Commonwealth Forest, has provided the Service with information on the status of the few individuals of *Cordia rupicola* found within the Guánica Forest.

Indicate which State(s) did not provide any information or comments: N/A

LITERATURE CITED:

- Breckon, G. J. and D. A. Kolterman. 1996. *Cordia rupicola* Urban. Final Report under Cooperative Agreement No. 1448-0004-94-9113 between the U.S. Fish and Wildlife Service and University of Puerto Rico, Mayagüez Campus. 6 pp.
- Liogier, H. A. 1994. Descriptive flora of Puerto Rico and adjacent islands. Volume III. Cyrillaceae to Myrtaceae. Editorial de la Universidad de Puerto Rico. Rio Piedras, Puerto Rico. 461 pp.

Liogier, H. A. and L. G. Martorell. 1982. Flora of Puerto Rico and Adjacent Islands: a systematic synopsis. Editorial de la Universidad de Puerto Rico, Río Piedras, Puerto Rico. 342 pp.

Proctor, G. 1991. Status survey of Cordia rupicola. In: Puerto Rican Plant Species of Special Concern: Status and Recommendations. Puerto Rico Department of Natural Resources, San Juan, Puerto Rico. 196 pp.

APPROVAL/CONCURRENCE: Lead Regions must obtain written concurrence from all other Regions within the range of the species before recommending changes, including elevations or removals from candidate status and listing priority changes; the Regional Director must approve all such recommendations. The Director must concur on all resubmitted 12-month petition findings, additions or removal of species from candidate status, and listing priority changes.

Approve: /s/ Jeffrey M. Fleming 11/16/2005
Acting Regional Director, Fish and Wildlife Service Date



Concur: _____ August 23, 2006
Acting Director, Fish and Wildlife Service Date

Do Not Concur: _____
Director, Fish and Wildlife Service Date

Date of annual review: October 2005

Conducted by: Boqueron, Puerto Rico Field Office